

# Towers for Telegrams: The Western Union Telegraph Company and the Emergence of Microwave Telecommunications Infrastructure

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*The American landscape changed significantly in 1945 when telecommunications companies began building microwave relay networks throughout the Mid-Atlantic region. Relay sites with towers and equipment buildings seeded antenna farms as the Federal Communications Commission and the communications industry planned for deploying new technology after the end of World War II. The Western Union Telegraph Company was one of the firms leading the build out of new microwave relay sites. Between 1944 and 1948 the company planned for and built two microwave relay systems that became the first successful private-sector entity to carry commercial traffic using the new technology. This paper explores how Western Union secured the necessary resources of technology, licenses, and land to build its first-generation microwave network linking New York, Philadelphia, Washington, and Pittsburgh.*

## Introduction

In 1944 and 1945, engineers and real estate specialists representing American telecommunications companies fanned out across the Mid-Atlantic states in search of properties on which to build microwave relay sites. Advances in radio technology achieved during World War II and significant regulatory changes by the federal government opened up new opportunities for private sector uses of radio spectrum. The Western Union Telegraph Company, American Telephone and Telegraph (AT&T), Raytheon, the Radio Corporation of America (RCA), Philco, and International Business Machines (IBM) were among the firms jockeying for Federal Communications Commission (FCC) licenses and prime relay sites in a slice of the American landscape extending from Boston, south to New York, Philadelphia, and Washington and westward to Pittsburgh (see figure 1).

Between 1944 and 1948 dozens of microwave relay sites sprung up on mountaintops, in farm fields and suburban backyards, and on urban rooftops as the first footprints were set in the construction of new infra-

structure corridors that opened up the information age. Like the turnpikes, canals, and railroads that preceded them a century earlier, these new telecommunications corridors would make indelible imprints in the American landscape. Radio towers began to break the horizon along such historic corridors as the National Road (U.S. 40) and the Lincoln Highway (U.S. 30) and in rural areas where water towers, grain silos, telephone and telegraph poles, and electricity transmission lines once defined the vertical limits of engineering potential. The descendants of the first-generation microwave relay sites may be seen throughout the country in the thousands of wireless telecommunications facilities dotting the landscape at the turn of the 21st century, providing cell phone coverage and broadband Internet access.

This study of microwave relay sites begins in the corporate offices and laboratories of Western Union, hotel meeting rooms where work groups from the communications industry planned for postwar developments, and FCC hearing rooms. Western Union, along with AT&T, was a first mover in microwave telecommunica-

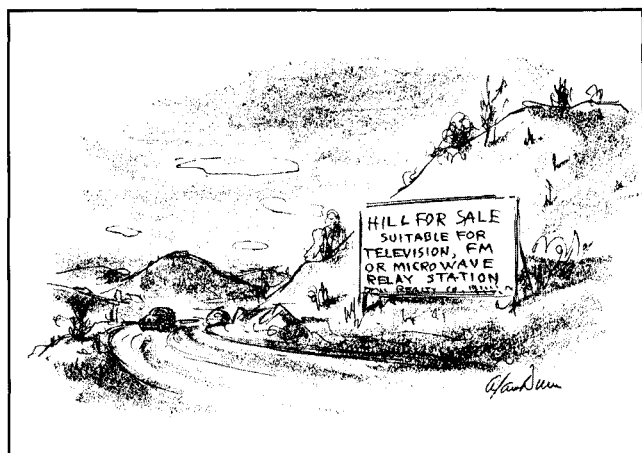


Figure 1. "Hill for Sale" cartoon by Alan Dunn published in the *New Yorker* 4 October 1947. © The New Yorker Collection 1947 Alan Dunn from cartoonbank.com. All Rights Reserved.